A redefinition of the orientation terminology of phasmid eggs.

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Phasmida, Egg Terminology, Orientation.

The article on *Dinophasma gutrigera* (Westwood) (Bragg 1993) raised the question of how one determines dorsal and ventral surfaces on eggs in which the micropylar plate circles the egg. In the case of this species (by comparison with other Aschiphasmatinae eggs) it would appear that the dorsal surface has been correctly identified as that bearing the micropyle, since it is typical in eggs of this group that the operculum should be tilted ventrally and the micropylar plate should bear a ventral central stripe. The orientation would be confirmed by examination of the internal plate as indicated below.

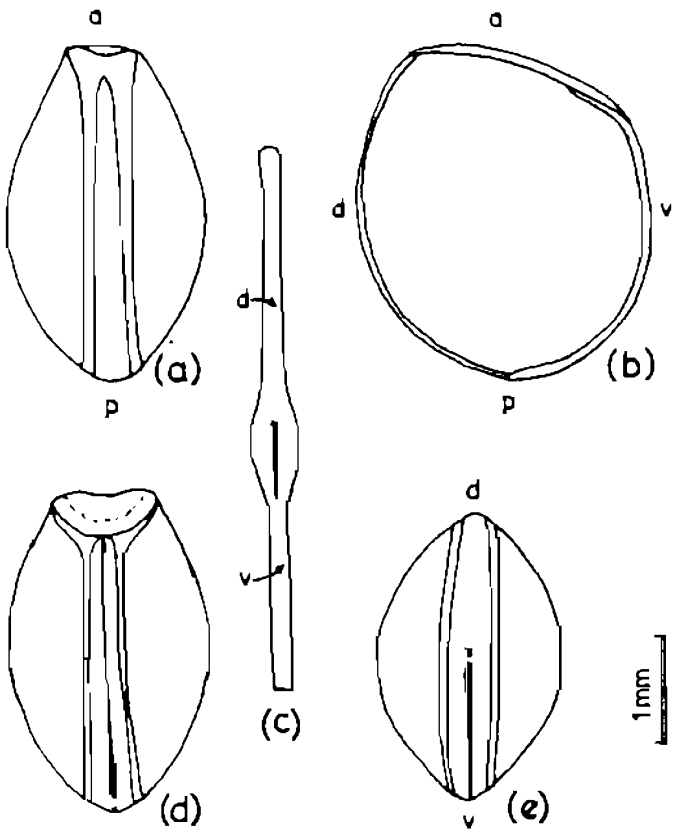

Figure 1. The egg of *Orthomeria superba* (Redtenbacher), **a)** dorsal view, **b)** lateral view, **c)** internal micropylar plate flattened out, **d)** ventral view, **e)** posterior polar view. (a = anterior, d = dorsal, p = posterior, v = ventral).

The orientation terminology for phasmid eggs (Clark 1976) was set up when only a small number of eggs had been studied and has been applicable with ease to the majority of eggs since examined. The operculum always defines the anterior end, although because it is sometimes set at a considerable angle it may appear to be on the dorsal surface at the anterior end (*Marmessoidea* and *Prisopus*) or tilted into the ventral surface (*Orthomeria* and *Dinophasma*). Where the micropylar plate appears on one surface only then that surface is clearly the dorsal surface. The dorsal surface in Aschiphasmatinae and similar eggs is determined by examination of the **internal** micropylar

plate. This shows clearly as a white shape on the inside of the egg capsule.

In all cases the internal plate bears a small stalk and behind this there is always a break in the plate. The two sides of the plate may reunite behind the break (a closed plate) or remain separate (an open plate) and this is the basis of the classification of plate types (Sellick 1987), but the break is always on the opposite end of the plate from the operculum. If the plate extends around the egg and the micropyle is near the pole, problems of orientation are solved because the part of the plate on the break side of the micropylar stalk is posterior, becoming ventral if the plate extends over the pole.

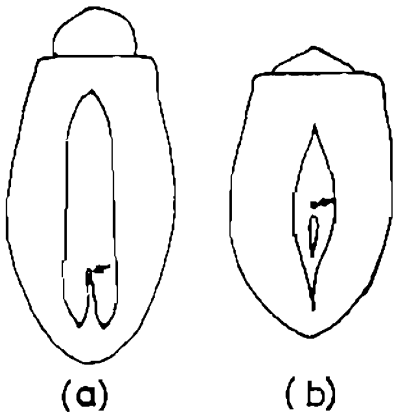

Figure 2. Internal micropylar plates:
a) open plate of *Crenomorphodes tessulata* and
b) closed plate of *Clitarchus hookeri*.

This is illustrated by reference to figures 1 and 2. Figure 1 illustrates the egg of *Orthomeria superba* (Redtenbacher), from a female collected by Ian Abercrombie on Mt Serapi, Sarawak on 20-08-1991; the specimen is now in Phil Bragg's collection (PEB-51). Figure 2 illustrates the simple forms of the internal micropylar plate; the open plate of *Crenomorphodes tessulatus* (Gray) and the closed plate of *Clitarchus hookeri* (White). In both cases the micropylar plates are shown against the outline of the whole egg and small arrows indicate the micropylar stalks.

References

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